



U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON

2011

Consumer Workshop on Sept 25th 12:00 Noon

Developing Education to greater Energy Efficiency

How companies can provide education to
help solving the Energy dilemma

agenda

- 1. Reminder on Energy challenges**
2. Who is Schneider Electric?
3. Energy Leaders Education program
4. Conserve my Planet
5. Student competitions
6. Energy University
7. Conclusion



A mission that energizes society across multiple generations

- Re-launched in 1020
- Dedicated incomplete in 1260
- Average lifetime approx 40
- Typical citizen worldview limited to +100km

1-The pressure on energy keeps growing



Today:

6 billion inhabitants

50% live in cities

2 billion have access to a decent energy infrastructure



By 2030:

8 billion inhabitants

60% will live in cities

an additional 2 billion people in the “energy” middle class

1-The impact will hit home, literally.

The earth at night



“Human history becomes more and more a race between education and catastrophe...”

HG Wells

1-We have 4 critical problems to fix

Generation:
> 10 yrs to fix



Problems:

- CO₂ Emissions
- Transmission Efficiency
- Capacity Constraints

Transmission:
> 10 yrs to fix



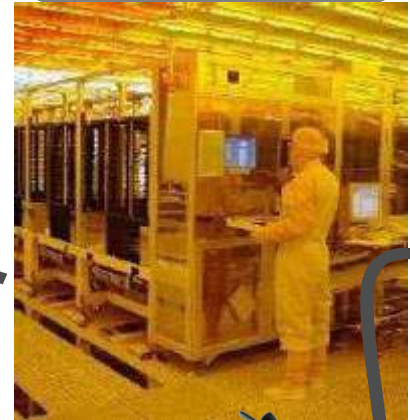
- Stranded Capacity
- Capacity Constraints

Buildings and
Process: <10 yrs to fix



- Stranded Capacity
- Service Entrance Capacity

Point of Use:
<10 yrs to fix



- Efficiency and Integration

The quickest wins: 50% of CO₂ cut must come from behavior

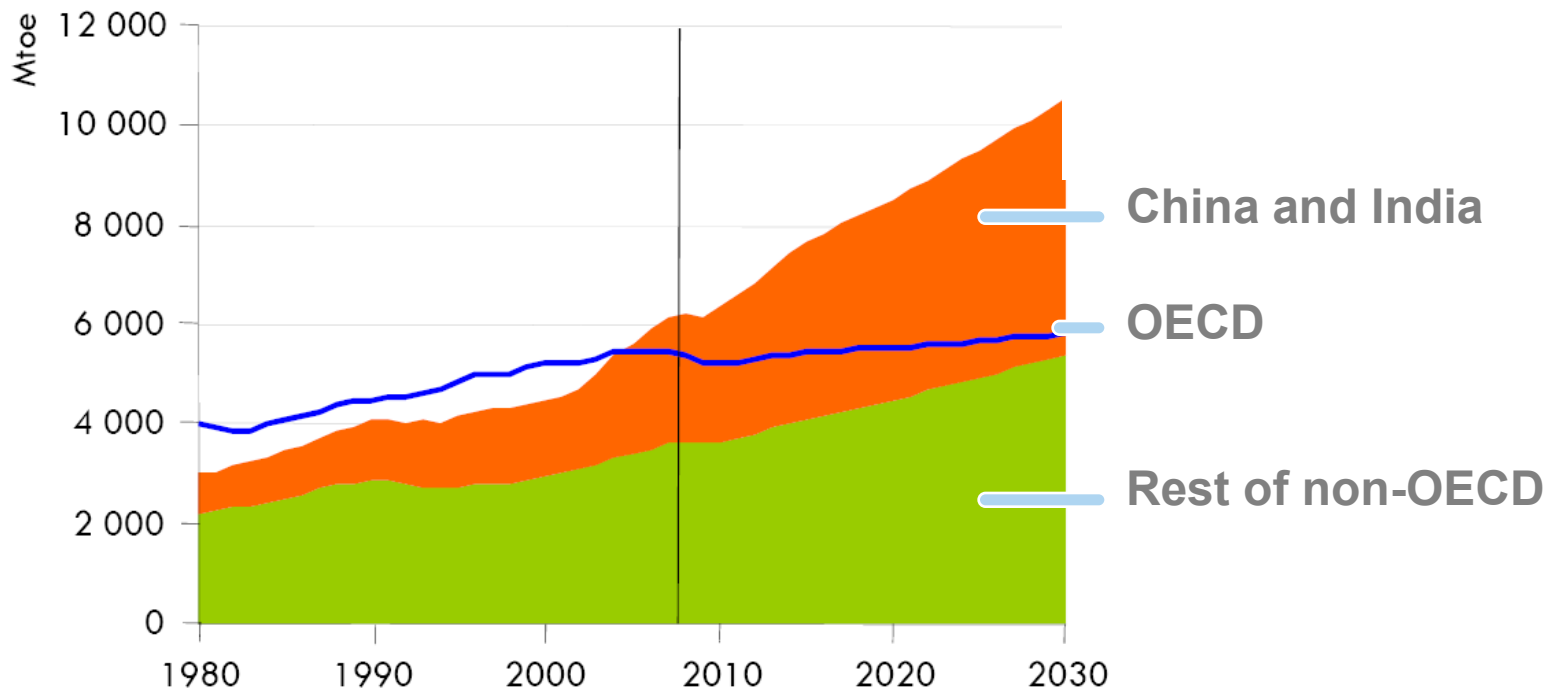
1.6 Bn people still have no access to electricity



2008: **4 billion** people with electricity, **1.6 billion** people without
2030: **5.5 billion** people with electricity, **1.4 billion** people without

1. Creating a structural increase in energy demand

World primary energy demand



Source: World Energy Outlook 2009, OECD / IEA

1-The energy dilemma is here to stay

The facts

$\times 2$

Energy demand
By 2050
Electricity by 2030

Source: IEA 2007

vs

The need

$\div 2$

CO₂ emissions to
avoid dramatic climate
changes by 2050

Source: IPCC 2007, figure (vs. 1990 level)

**Frequent
power outages**

**Rising
energy prices**

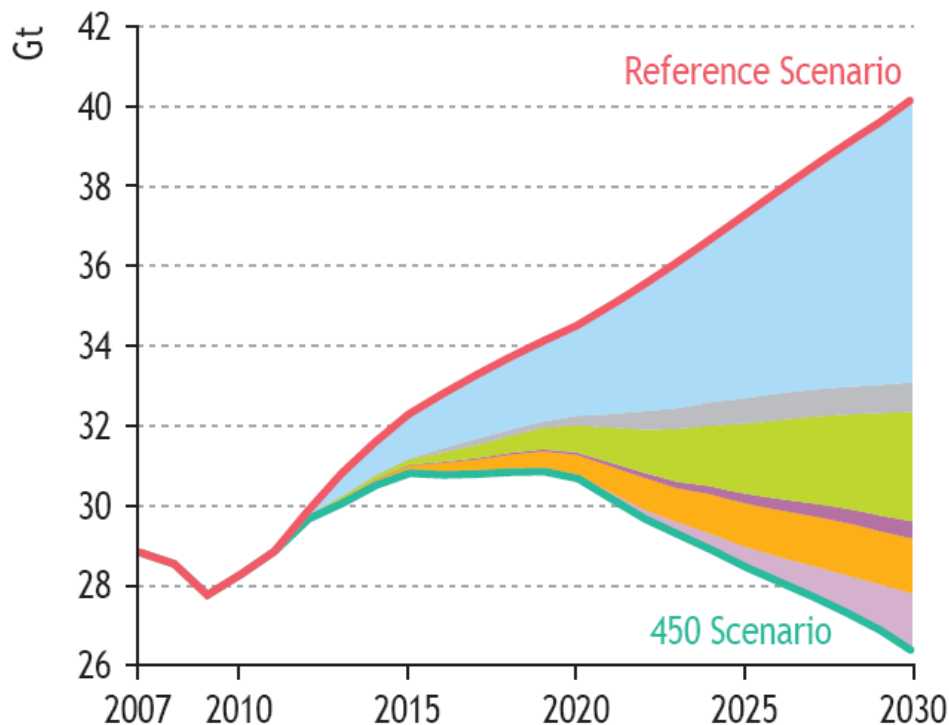
Climate change

**Conflicts for
resource access
& control**

1-The solution is a combination of cleaner energy generation and efficiency....

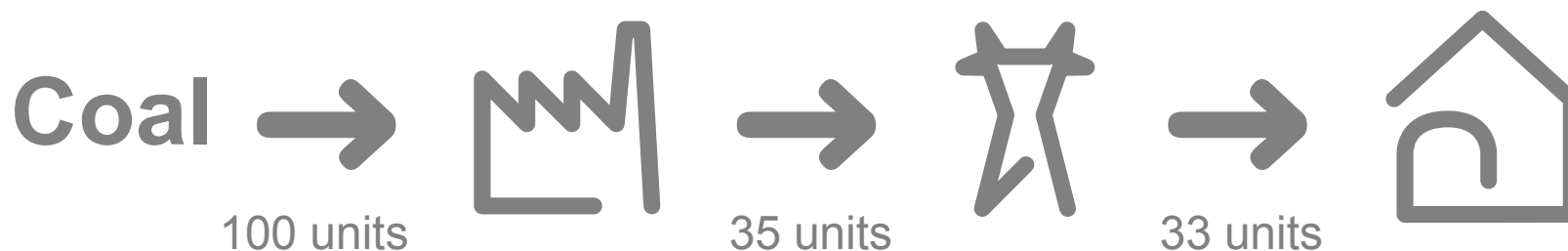
- Over 50% of CO₂ emission abatement will be from end use efficiency

World energy-related CO₂ emissions abatement



	Abatement (Mt CO ₂)		Investment (\$2008 billion)	
	2020	2030	2010- 2020	2021- 2030
Efficiency	2 517	7 880	1 999	5 586
End-use	2 284	7 145	1 933	5 551
Power plants	233	735	66	35
Renewables	680	2 741	527	2 260
Biofuels	57	429	27	378
Nuclear	493	1 380	125	491
CCS	102	1 410	56	646

1-.....as efficiency counts triple



1 unit saved at
point of use



**3 units of primary
energy not consumed**

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2-Schneider Electric at a glance

30

billion \$ sales in 2010

37

% of sales in new economies

110 000+

people in 100+ countries

4-5%

of sales devoted to R&D

The global specialist in Energy management

Making energy:

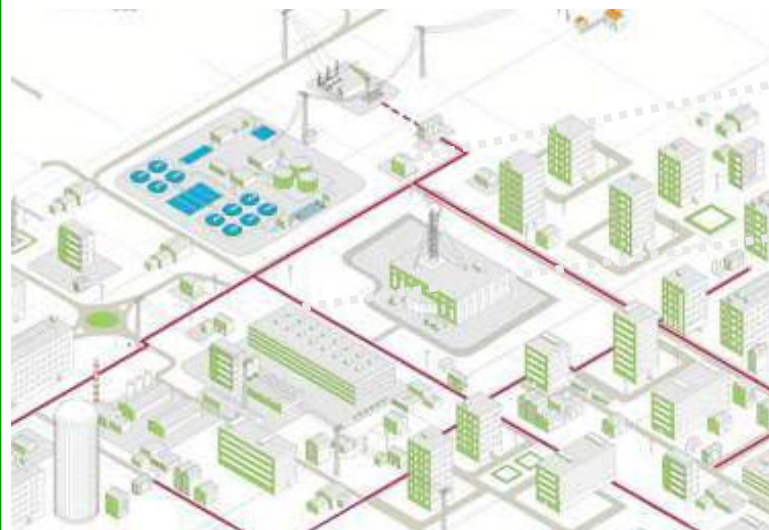
- Safe
- Reliable
- Efficient
- Productive
- Green

Covering

72%

of world final energy
consumption

Energy production
& transmission



Energy usage

A Recognised
Sustainable commitment

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3-ELE program

Energy Leaders Education

10 initiatives

for children, students and professionals



3-ELE program: Energy Leaders Education

10 initiatives for children, students and professionals

children

- *Conserve my Planet*

students

- *GoGreen in the City*
- *WASC/World Academic Sport Challenge*
- *Innovation Challenge/India*
- *SEEC competition/China*
- *University program/US*
- *Solar Decathlon US/Europe/China*
- *Little Green Men*
- *Green Ambassadors*

professionals

- *Energy University*

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Time to shine.

4-ELE for Children: *Conserve my Planet example of India*



4-ELE for Children:

Conserve my Planet - ex. of India

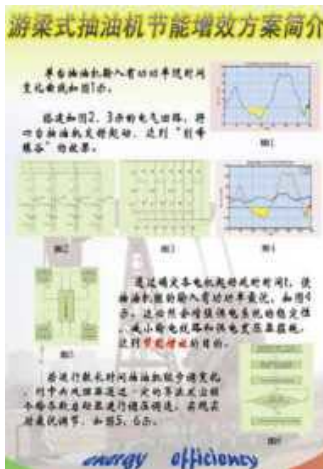
*To create a galaxy
of Green
Champions*



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5-ELE for students: *University competitions ex. of China*



5-ELE for students:

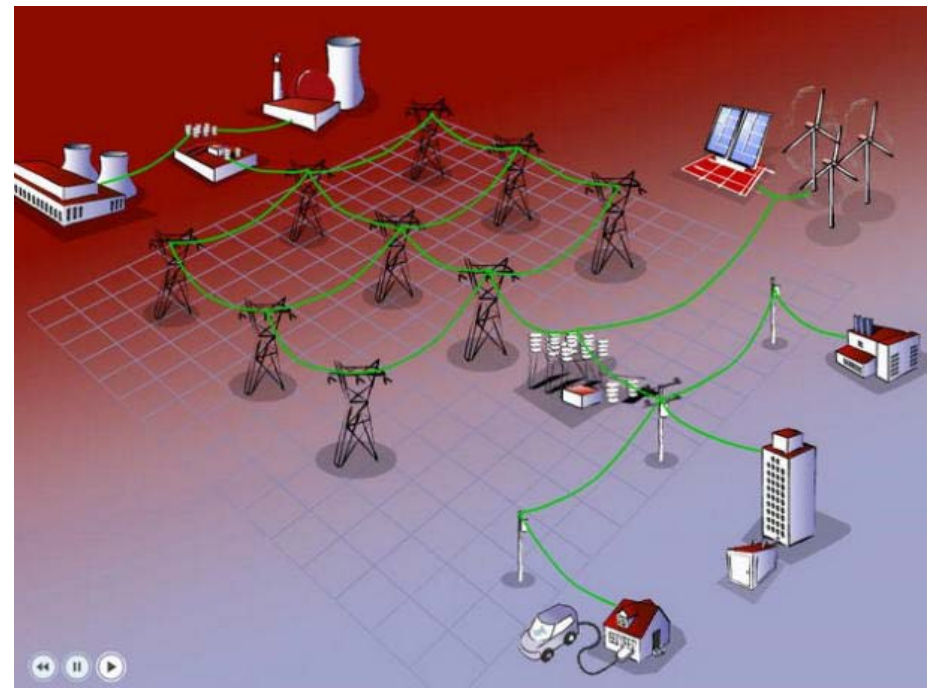
World competitions ex. of Go Green in the City



5-ELE for students: *sponsored competitions* *ex. of Solar decathlon*



5-ELE for students: *sponsored competitions - ex. of Solar decathlon*



5-ELE for students: *sponsored competitions - ex. of Solar decathlon*

The future Energy Olympics?



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6-ELE for professionals: *Energy University*


- Web based **free** learning program
- **100 000** registrations
- **53 classes**
- **8 languages:** Chinese, Spanish, French, Italian, Portuguese, German, Russian, Turkish
- **accreditation** from major associations/companies: IEEE, REEEP, AHLEI, FIRE, USGBC, CIBSE, ACOE, BOMI, Engineers Ireland, Masdar, Ford

Become a champion of energy efficiency.

Enroll at MyEnergyUniversity.com today!

Energy University courses are:

- On demand
- Less than an hour
- Free of charge



Energy University
by Schneider Electric



Energy isn't free...
but learning to save it is

➤ Register for free online courses at MyEnergyUniversity.com

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7-Conclusion: to solve Energy dilemma, Education to Energy is key

- Lifelong, from school children to students to professionals
- private companies can contribute significantly

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